



yogasynergy

With Simon Borg-Olivier

# Back Pain Relief



# Welcome to Yoga Synergy

Established by [Bianca Machliss](#) & [Simon Borg Olivier](#) in 1984, Yoga Synergy is one of Sydney's largest and most respected yoga schools.

At Yoga Synergy, we teach yoga that is based on a deep and sound knowledge of anatomy and physiology, modern medical science and traditional *hatha* yoga.

The Yoga Synergy method incorporates Eastern and Western knowledge, to provide students with a safe yoga practice that is both dynamic and meditative.

We wish you well in your pursuit of improving your back pain and believe that our methods will improve your overall wellness.

Namaste Bianca and Simon

# Causes of Back Pain

There are many possible causes of back pain. These include:



Intervertebral disc bulge



Inflammatory disease



Degenerative disc disease



Inflammatory disease



Facet joint problems



Nerve entrapment or impingement





## Is there a Cure?

There is no specific cure (either medical or exercise-based) for back pain. However, intelligently applied exercise-based physiotherapy in combination with the techniques of traditional *hatha yoga* can, in most cases, be of assistance in managing and improving back pain.

Back pain can be very debilitating and is often associated with other problems throughout the body. You may have been experiencing:

- \* Shoulder stiffness, Hip-flexor tightness
- \* Tight and weak gluteal muscles
- \* Hip-joint stiffness, Tight hamstrings
- \* Lack of back extensor strength
- \* Hyper- extended knees, Pelvic floor weakness
- \* Lack of aerobic fitness

# Strength & Flexibility Training

With age and inappropriate physical activity, there is often a tendency for stiff parts of the vertebral column to become stiffer, while those that are more mobile tend to become weaker and more flexible.

This uneven flexibility is often the source of back pain. The problem can be compounded by an exercise program that is neither well-planned nor well-applied, including yoga that is taught badly.

For most people, a flexibility and strengthening program is recommended to address the symptoms that accompany back pain. Strength and flexibility need to be trained simultaneously through the full range of joint motion. Joints that are very flexible and/or not very strong should only be mobilised gently, or they risk becoming overstretched and injured.



Similarly, joints that are stiff may become stiffer if the muscles around them are over-tensed or over-activated.

## Flexibility Training

For people with lower back pain, mobilising and lengthening muscles and tissues should mainly be directed at the parts of the body that tend to be stiff or tight such as the hips, shoulders, and middle spine.

## Strength Training

Strengthening should be directed at parts of the body that tend to be weaker and/or more flexible, such as the abdominal muscles (especially transversus abdominis), lower back muscles (especially multifidus) and the major shoulder muscles such as the latissimus dorsi, which has fascial connections with the transversus abdominis and muscles of the lower limb.

Initially, the main aim in taking a person through the program is not to aggravate the existing condition. Then, as their whole body responds to exercise, the problem itself can slowly be addressed.

## Stabilising the Core

Core stabilisation is one of the most effective physiotherapy treatment techniques for lower back pain. In yoga, core stabilisation is a very ancient practice known as *mula bandha*. Throughout the body, *bandhas* are used in yoga to stabilise the major joint complexes while regulating circulation. A *bandha* is essentially the co-activation (simultaneous tensing) of antagonistic (opposing) muscles around a joint complex. *Mula bandha* involves the co-activation of antagonistic muscles (flexors and extensors) of the lower back joint complex, and/or the activation of the transversus abdominis<sup>1-3</sup> and the pelvic floor muscles. Most exercise programs for the lower back should incorporate some form of *mula bandha*.

The best type of mula bandha to be used during exercise and your yoga practice is one that allows you to still breathe naturally with your diaphragm.

The two most important principles when treating back pain conservatively through exercise are:

1. **balancing strength with flexibility**
2. **not performing any exercise that causes or exacerbates pain.**

## Safe Flexibility Training

The key to a safe flexibility program is the use of 'active stretching' and 'active-assisted stretching.' Along with initiating all movement from the core these type of muscle and tissue lengthening exercises (often referred to as stretching exercises) are ...

**Active stretches** - Movements that are initiated by activation of an agonist muscle and cause a lengthening (stretching) and relaxation of the antagonist muscle.

**Active-assisted stretches** - Also initiated by activation of an agonist muscle to stretch and reciprocally relax the antagonist, but are assisted by other muscles, such as those in the arms or the legs.

# Yoga Postures & Movements for low-back pain

## GENERAL PRECAUTIONS AND INSTRUCTIONS

This synergy-style yoga program is designed for people with non-serious low-back pain. It may not be suitable for people whose pain is easily inflamed after any exercise. The program is not designed to be practised during pregnancy or in cases of cancer. Move gently and carefully from your core into each exercise from your core and modify according to your limitations. If you are uncertain make sure to consult a physiotherapist or another health professional who has a good understanding of how to work with lower back pain.

A useful, simple series of active spinal stretches performed in a standing position that actively take the spine and trunk into their main movements are spinal traction (Figure 1), spinal flexion (Figure 2), spinal extension (Figure 3), spinal lateral flexion (Figure 4) and spinal axial rotation (Figure 5).

These postures can be made more accessible for some people by standing with the feet hip width apart. Also they can be made easier by only lifting shoulder blades and not the arms. The arms do not need to be interlocked if that is uncomfortable. In the side bends it is enough to simply lift one arm only. In the twists it is enough to keep the arms horizontally.

## Active standing spine movements

Keep the lower abdominal muscles gently tensed throughout these exercises. For each exercise, take one gentle breath in, then exhale fully and tighten the perineum, lower abdomen and the 'underarm muscles'



### 1: Spinal stretch

Interlock fingers in front of body and push hands away. Take arms and shoulders forward and up to lengthen spine and trunk. Keep lower ribs moving inwards towards the spine and move tail bone slightly down and forward to prevent back arching

### 2: Spinal forward bend

Bend knees 20–90°. Interlock fingers with palms facing outwards and push hands outwards. Take arms and shoulders forward and down to bend spine and trunk forward

### 3: Spinal backward bend

Bend knees 20–90°. Lean slightly forwards to activate back muscles, interlock fingers behind back and push hands away. Take arms and shoulders back and down to bend spine and trunk back. Move tail bone slightly down so lower back is not over-extended

### 4: Spinal sideways bend

From spinal stretch, move left ribs upwards and move hips carefully left to stretch the left side of body. Exhale fully, then push hips to the right to return to spinal stretch. Repeat on right side

### 5: Spinal twist

From spinal stretch, rotate body clockwise. Keep right ear slightly lifted from right shoulder and chin slightly lowered. Move right hip slightly forward. Do not arch back or bend sideways. Exhale fully, return to spinal stretch. Repeat on left side

## Hip stretches

Lower back pain is often made worse because of tightness in the hip flexors, such as the psoas major, and the associated increase in lumbar lordosis. Simple hip-flexor stretches (Figures 6a, 6b) are therefore recommended — provided they do not exacerbate pain — for most people with lower back pain. It is important in these stretches to emphasise posterior pelvic tilt (simply push the pubic bone forwards and move the top of the hips backwards to lengthen the lower back). Stretch and relaxation of the hip flexors is enhanced if hip extensors such as the gluteus maximus are activated during the stretch by ‘squeezing the buttocks’.

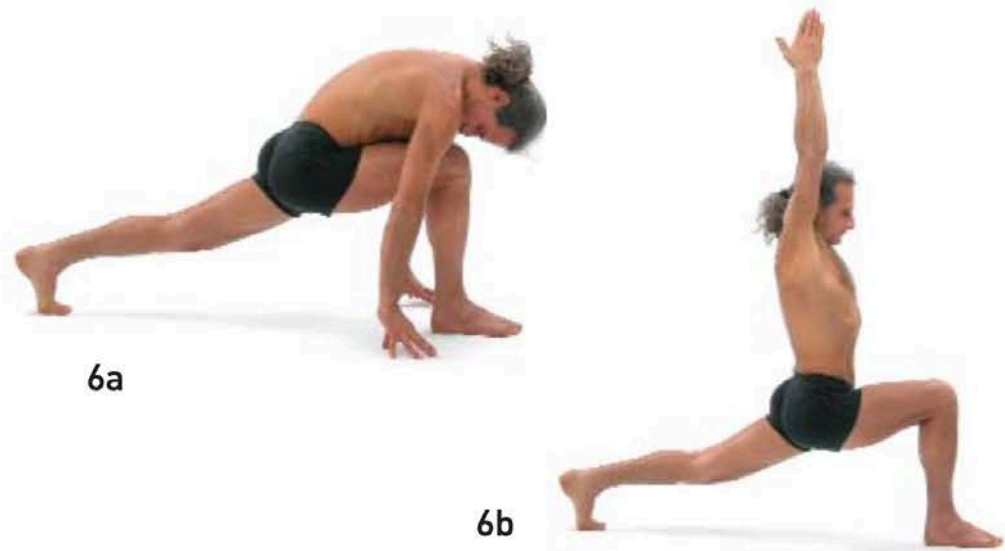
### Standing lunges for hips

#### 6a: Lunging front-groin stretch

*Not for very stiff person — see 6b.* Stand with big toes touching and heels slightly apart. Bend knees slightly and bend forward to bring fingers next to heels. Step left leg back about a metre to a lunge position. Gently tense buttock muscles. Repeat with right leg

#### 6b: Standing lunging front-groin stretch

*May be easier for stiff person if front is not bent far and hands are supported by wall or table in front of body.* From 6a position, stretch arms and trunk upwards. Keep left heel lifted high and tuck tail bone down and forward. Gently tense buttock muscles. Repeat with right leg



People with tight hip extensors — especially gluteal muscles and hamstrings — often over-flex their spines when bending forward, and this can increase pain. Hence, people with lower back pain often benefit from intelligently applied hip-extensor stretches, such as the standing hamstring stretch with a neutral or straight spine (Figures 7a, 7b), which can help a person to move more freely from the hips without straining the lower back, and which also strengthens the back extensors. It is also okay for some people to bend further forwards but once you feel a stretch it is usually safer to bend the knees.

Another useful hip-extensor stretch is the cross-legged forward bend (Figure 16), which can also alleviate some pain associated with sciatica by releasing the sciatic nerve from entrapment around the piriformis muscle.



Lunges and hamstring stretching are often challenging for people with physical limitations such as those imposed by lower-back pain. Therefore, a useful set of stretching exercises that incorporates active-assisted spinal flexion and extension, as well as hip flexion and extension, can be done in the supine position (Figures 10–14).

Therefore, a useful set of stretching exercises that incorporates active-assisted spinal flexion and extension, as well as hip flexion and extension, can be done in the supine position (Figures 10–14).

For the postures in Figures 10 & 12 be careful not to strain your neck. If uncomfortable please keep your head on the floor.

Generally when the head is on the floor stabilise your neck by keeping your armpits pressing towards your hips, keeping the head down, the chin gently pressing towards your throat and the neck gently backwards. When the head is on the floor generally stabilise your neck by gently pressing the head into the floor and gently lifting your throat and chin slightly away from the floor.



10



11



12



13

## Supine postures

### 10: Spine and hip flexion

Hug both knees to the chest, then lift sitting bones and perhaps head (carefully) from floor

### 11: Spine and hip stretch, hip flexion

Hug right knee to chest with head and sitting bones pressing into floor, as if trying to lift centre of spine from floor. Repeat with left leg

### 12: Spine and hip flexion, hip stretch

Hug right knee to chest, then lift sitting bones and perhaps head (carefully) from floor. Repeat with left leg

### 13: Spine stretch and hip flexion

Hug both knees to chest with head and sitting bones pressing into the floor as if trying to lift centre of spine from floor

### 14: Bridge pose

Lie on back. Bend knees and have feet hip-width apart, with knees above heels. Gently tense abdominal and buttock muscles. Press feet down and lift sitting bones up to stretch front of body



14

## Prone spinal extension posture

Another example of active movements for strength and flexibility ('active stretching') that may be incorporated in a program for relieving lower back pain is lying prone while lifting the chest and hands off the floor to activate spinal extensors such as the erector spinae and multifidus (Figure 9).

This brings the spine into active extension and provides a gentle stretching of the spinal flexors (abdominal muscles). It is usually helpful in these positions to press your pubic bone into the floor and breathe into your abdomen. There is no need to consciously tighten your pelvic floor or your abdomen in most cases as pressing your pubic bone into the floor gives enough abdominal firmness.

### Prone spine stretches

#### 8: Simple locust pose

Lie on abdomen, if not painful. Gently lift upper back away from floor. Use hands for support. Press sitting bones into floor and firm abdomen. Tighten the armpit muscles and gently pull chest forward with the hands

#### 9: Active cobra pose

Press down sitting bones into floor. Draw the abdomen away from the floor. Tighten armpit muscles



An active-assisted stretch can also be incorporated in this position using the same muscles used in active stretching but assisting the lift with the gentle use of the hands (Figure 8). The arms can also be used to pull the chest away from the hips in order to traction the spine in a prone position. These classical yoga postures resemble what is often referred to by physiotherapists as the McKenzie technique.<sup>5</sup>

In both the active and the active-assisted stretch described above, it is often useful to gently press the pubic bone into the floor. This then generates a gentle co-activation (simultaneous tensing) of opposing muscles around the lower back (a type of mula bandha), which physiotherapists have shown to help stabilise the lower back and usually reduce low-back pain. (Figures 1-3)

## Modifications of your practice for severe back pain

Although there is ample evidence to suggest that a prone spinal extension (lying on your abdomen) helps in many cases of lower back pain — especially when there is lumbar disc bulging — there are many different ways to perform it, some of which may not be safe.

Not everyone with lower back pain is able to lie on their abdomen but for those who can, generally the safest approach is to lie prone with the sitting bones pressing towards the floor (slight posterior pelvic tilt).

Generally, it is safer to attempt simple active-assisted spinal stretching first (Figure 8), with the aim of gently lengthening the front of the body without impinging the lower back. Initially, it is best not to let the lower back extend more than normally, and not to elicit or increase pain. This may be progressed to active extension by working towards lifting the hands off the floor. In case of spinal-muscles spasm ( i.e. having a tight lower back),

it may be better to leave the spinal muscles completely passive and simply use the hands to lift the chest off the floor to a passive spinal extension.

For those who cannot lie prone and extend the spine and the hips at the same time, spinal extension can be performed standing (Figure 3); on the floor in the supine posture (Figure 11); and approached while practising hip extension in the standing hip-flexor stretching exercises (Figures 6a, 6b).

## Seated twisting exercises

Lower back pain is often relieved through gently applied active twisting (Figure 5) and also sometimes active-assisted spinal twisting, performed sitting cross-legged or on a chair (Figure 15). This is most effective and safest to practise if the lumbar spine is held in its natural curvature (normal lumbar lordosis) Active twists are best performed by moving from the core.

A simple approach is to begin by fully relaxing the pelvic floor and the abdomen. Then simply twist your trunk so that your arms and navel go in one direction, for example to the left, while the pubic bone and perhaps your legs move in the opposite direction, in this case to the right. When you learn to move from your core in this way your core becomes firm but you're still able to breathe into it in a relaxed way. At such times the muscles that make you twist in one direction actually release the muscles that would make you a twist in the opposite direction. This can really help in relieving your spine of lower back pain. It is important that if you do active-assisted spinal twisting that you move from the core to firm your abdomen using a similar system to that applied in the active twisting.

## Seated postures

### 15: Seated twist

Sit cross-legged or on a stool. Firm abdomen and press feet into floor. Twist body to right, put left hand on right knee and twist further but turn head left. Repeat on opposite side, turning trunk left and head right

### 16: Seated forward bend

Sit cross-legged or on a stool. Firm abdomen and press feet into floor. Bend body forward over thighs and gently stretch forward



## Relaxation exercises

Learning how to relax is important. Spinal muscle spasm and general body tension resulting from the stress of daily life can be a contributing factor to back pain. Therefore, it is useful to start and conclude an exercise program for back pain with a few minutes of total relaxation in a comfortable posture, such as lying supine with support under the knees and the head (Figure 17). The most important parts of your body to relax are those which have dual control between the conscious and unconscious nervous system. These include the muscles of your **pelvic floor**, your **abdomen**, your **shoulders** and **hips**, your **neck** and your **facial muscles**.

## Relaxation

### 17: Supine supported relaxation

Supine relaxation with support under knees and neck as needed

17



## Caution – pain and yoga

These exercises should be used with caution and should be suitably modified for each individual so as to not exacerbate their problems. Pain is a relatively good indicator of how an exercise program is progressing.

Although some pain may not be a problem, beginners and untrained practitioners of yoga should avoid moving so deeply into a posture that it elicits pain or causes an increase in resting pain.

Pain should not be increased directly after the practice, other than a small amount of muscle tenderness on the day following a strong exercise session.

When beginning an exercise program for back pain, it is prudent to make it quite gentle and then see how the body responds. With time and practice, the intensity of the program can then be gradually increased.



## About Yoga Synergy

**Bianca and Simon met at Sydney University, in the Science Faculty in 1988. Simon introduced Bianca to yoga where he was teaching at the Newtown studio just 2 classes per week..**

In those times yoga was a rarity, not many people were practicing it or teaching. Over the next few

years Bianca and Simon decided to make Yoga teaching their priority.

Still holding down full time jobs they both embarked on a Bachelor of Applied Science (Physiotherapy) in order to learn more about the body and become safer, better yoga teachers. It was a very intense 4 years between 1994 - 1997 but out of it evolved the **Yoga Synergy Method**, a fusion of the knowledge gained from physiotherapy and the many styles of yoga they practiced, plus the experience of teaching hundreds of students weekly and having the benefit of their trust and feedback.

The method has evolved over time but carries the same message that both are passionate about and love to share with all who they teach - each practice should be cultivated to energise and nurture the body, calm the mind and be present in the now.....

## The Yoga Synergy method

With Yoga Synergy, you will learn yoga that is based on a deep and sound knowledge of anatomy and physiology, modern medical science and traditional hatha yoga.

The style of hatha yoga taught at Yoga Synergy is derived from the work of Professor T. Krishnamacharya. Sri Krishnamacharya was the teacher of three very influential yoga masters: Sri B.K.S. Iyengar (author of Light on Yoga); Sri K. Pattabhi Jois (who developed Ashtanga Vinyasa Yoga); and Sri T.K.V. Desikachar (author of The Heart of Yoga).

Our unique style incorporates asanas (poses and postures), vinyasa (dynamic exercises that combine movement with breath), pranayama (breath control) and meditation. It's a dynamic moving meditation that links postures with breath. Every posture has a simple and a more challenging / complex version. All students – regardless of strength and flexibility – are encouraged to understand the simple versions of the

postures before the more complex versions are attempted. Students can then choose the level of difficulty that suits them, from moment to moment, day to day.

When students undertake a more regular practice, it's important they know how to respond to the body as it is in the moment, and not be attached to where they would like it to be in the future or where it was in the past. In this way, students learn to generate energy rather than block it, with the focus on meditative flow, to ultimately create a practice that gives the best benefits long term.

## The Yoga Synergy philosophy

The yoga journey helps open the heart and clear the mind, to ultimately discover the transcendental self, the atma or the divine. The insights of yoga that were discovered 5000 years ago are still valid today. Humans are fundamentally the same, and yoga's ultimate objective is the union of body, mind and spirit, which leads to freedom, compassion and harmony.

At Yoga Synergy, we teach the ancient art of yoga in a safe, fun and intelligent way. Students learn to do yoga responsively, in harmony with how you feel from day to day, moment to moment. Each practice is designed to fulfill your physical, mental, emotional and spiritual needs, to enhance life force, energy and vitality.

The Yoga Synergy method encourages students to practice at home, safely and independently, and it can be applied to any style of yoga, with the main intentions to energise the body, calm the mind and stay focused on the moment.

## How can we help?

**Online Yoga** -Yoga Synergy offers Online yoga Classes for students all around the world. [Find out more](#) and join a FREE class.

**Online Courses** - Our four **Essential Courses** start you on your Teacher Training journey.

Our four **Skill Building Courses** build on your knowledge across important areas of skill and practice including Pranayama, **Spinal Movements** and the movement of Energy through the body. Click [MORE INFO](#) and to watch a FREE Lecture.

### Yoga Teacher Training

#### Are you interested in training as a Yoga Teacher?

We've been training yoga teachers for over 30 years, and have watched our students go on to enhance their yoga practices, develop wonderful teaching careers, and create beautiful yoga schools. step on your yoga journey?

#### Testimonials

“This course was really a wish come true! What you do, and how you teach is so flawless that sometimes we can actually believe it's easy!!!”

[more Testimonials here >>>](#)



“What I value most about yoga is how good it makes me feel, regardless of what else is going on in my life. It provides a space where I can re-establish a sense of balance.” Bianca Machliss



“I use yoga to lovingly encourage the circulation of energy and consciousness throughout my body to be in greater harmony with everything around me. Simon Borg-Olivier.

Namaste  
Bianca & Simon

